ABSTRACT

SIMD SUPPORTING FILTERING IN A VIDEO DECODING SYSTEM

A filter engine that performs filtering operations on an input data stream comprising blocks of data. The filter engine includes a first memory element, a second memory element, a first shift register, a second shift register and a processor. The first and second memory elements store blocks of data to be processed. The first shift register receives and stores blocks of data from the first memory element. The second shift register receives and stores blocks of data from the second memory element. The first and second shift registers are adapted to selectively shift their contents by a predetermined number of bits corresponding to the size of a data element, such as a pixel. The processor receives blocks of data from the first and second shift registers and simultaneously performs filtering operations on blocks of data from the first and second shift registers.